G22.3033-003: Architecture and Programming of Parallel Computers
Handout #3: Homework 1 (10 points)
Due: September 24, 1998

This assignment focuses on basic architectural design choices, and how these are affected by technology
trends, and requirements of the target market. You should read Chapters 1-2 of Culler/Singh/Gupta and
Almasi/Gottlieb as background.

Particulars

The goal of this assignment is to assess why certain high-performance computer companies have succeeded
and others have failed. Choose a company from one of the following two lists,

The Dead Computer Society: Cray Computer, Thinking Machines, Kendall Square Research, Multiflow,
BBN, and Ametek/Symult.

The Survivors: IBM, SGI/Cray, HP/Convex, Compaq/Digital/Tandem, Sun, and Ncube.

conduct a background literature search, and write a two page essay that describes the company’s primary
parallel computer product, its target market, and an analysis of either why the product failed (“the dead com-
puter society”) or how it has evolved in response to technology trends and market demands (“the survivors”).
For companies that have more than one parallel computer product, analyze any one. Your best source of
information is probably the web, old copies of trade press, archives of the comp.parallel newsgroup,
and historical references at the end of the chapters in the two textbooks.

Guidelines

Your essay should satisfy the following guidelines:

• It must be formatted in 10 or 11pt type, and available in postscript or PDF form. The best essays will
  be placed on the class web page.
• References are not included in the two pages.
• The majority of the essay should consist of the analysis, not a report of the product’s technical features.

75% of the grade for the essay will be based on the content, and the remaining 25% will be based on
presentation (style, organization, etc.).